

Amendments to the Drawings:

Please amend Fig. 2 as shown on the attached drawing sheet marked up to show changes made. Replacement sheets are included.

Fig. 2 has been amended to explicitly identify process step of identifying range of motion.

Attachment: Replacement Sheet (1 sheet)
Annotated Sheet Showing Changes (1 sheet)

Remarks

Reconsideration of this application is requested in view of the foregoing amendments to the claims and to the drawings.

The status of the claims is as follows:

Claims 1-122 are pending;

Claims 1-53 and 89-106 have been rejected; and

Claims 54-88 and 107-122 have been withdrawn from consideration.

The examiner has objected to the drawings because “determining joint range of motion” is not shown in the drawings but is in the claims. This objection is believed overcome by the amended drawings

FIG. 2 has been amended to have block 214 read “Manipulate joint to determine stability and joint range of motion.” Support for this change to FIG. 2 is found on page 10, lines 4 – 6. “In the block 214, the surgeon will manipulate the joint to confirm that the joint will not dislocate under normal activities and that the range of motion is acceptable.” Therefore, this amendment to the drawing does not introduce new matter and the drawing now shows all elements of the claims. It appears that this objection has been overcome and should be withdrawn.

The examiner has objected to the amendments introduced in the amendment of December 12, 2006 as containing new matter. Without conceding that these amendments do contain new matter, and to advance the prosecution of this application claims 1, 28, and 89 have been amended to replace “without using a scan” with “based solely on the marking of the patient’s anatomical landmarks and the analysis of anatomical biomechanical axes of the joint.” The inserted phrase finds support throughout the specification and specifically at page 11, line 21 to page 13, line 17 and page 14, lines 9-29. The only method of creating the model uses the identified landmarks and the derived axes. Therefore, the amendments to claims 1, 18, and 89 do not introduce new matter and the objection has been overcome and should be withdrawn.

In a similar manner, the examiner has rejected claims 1-53 and 89-106 under 35 U.S.C. §112, both first and second paragraphs. Based on the above amendments to these claims, it is believed that these rejections have been overcome.

The language noted by the examiner in the above rejections has been removed from the claims. Even though applicants believe that prior presented claims were properly

supported and in compliance with 35 U.S.C. §112, first and second paragraphs, in order to expedite the prosecution of this application, these claims have been amended. Therefore, these rejections should be withdrawn.

The examiner has rejected claims 1-5, 7, 8, 14, 15, 21-26, 28-32, 35, 41, 42, and 89-93 as unpatentable under 35 U.S.C. §103(a) over U. S. Patent No. 6,923,817, hereafter “the Carson patent,” in view of U. S. Patent No. 6,645,251, hereafter “the Salehi patent.” This rejection as it applies to the amended claims is traversed.

The Carson patent has numerous deficiencies that are not addressed by the Salehi patent. First the Carson patent does not create a three dimensional model intra-operatively “based solely on the marking of the patient’s anatomical landmarks and the analysis of anatomical biomechanical axes of the joint.” The system and process described by Carson requires the use of pre-surgical images to create any images that are used intra-operatively. There is no disclosure or suggestion to create the model in the manner as now claimed. The methods described in Carson are a statement of how navigation systems are classically used by registering the pre-surgical images with landmarks on the patient. This registration merely lines up the pre-surgical image with the location of the patient in real time and space. This enables the system to track the tools used relative to the designated anatomy of the patient. There is no creation of a model in the Carson patent that can be used as a substitute for the pre-surgical images. The present claims all require the preparation of a model only using the patient’s anatomical landmarks and the analysis of anatomical biomechanical axes of the joint.

The Salehi patent does not remove the above deficiencies of the Carson patent. The Salehi patent only discloses preparation of the bone for the implant. There is no disclosure of model creation in the Salehi patent. For at least this reason, the rejection of claims 1-5, 7, 8, 14, 15, 21-26, 28-32, 35, 41, 42, and 89-93 based on the Carson patent and the Salehi patent is unwarranted and should be withdrawn.

The examiner has rejected claims 1-12, 14-39, 41-53 and 89-106 under 35 U.S.C. §103(a) over the Carson patent in view of an article published in Clinical Orthopaedics and Related Research in the name of DiGioia, hereafter “the DiGioia article.” This rejection as it applies to the amended claims is traversed.

The DiGioia article does not remove the deficiencies of the Carson patent discussed above. The DiGioia article does not discuss or disclose the creation of a model “based solely

on the marking of the patient's anatomical landmarks and the analysis of anatomical biomechanical axes of the joint." There is no disclosure or suggestion of the creation of such a model as required by the claims of the present application. The examiner acknowledges this in the office action. The examiner's rationale why this would be obvious is not convincing because it is based on a misreading of both references in a manner that would not be done by a person of ordinary skill. The Carson patent requires the use of pre-surgical images and registers these in a conventional fashion. DiGioia uses navigation to assist the surgeon in determining if the post surgical joint is stable. Neither document suggests creating a model without a pre-surgical image. The method of the present invention saves time and inconvenience to the patient by not requiring that they submit to a pre-surgical image scan. The method is also useful for emergency situations where creation of a pre-surgical image is not possible or desirable. Therefore, the rejection of claims 1-12, 14-39, 41-53 and 89-106 based on the combination of the Carson patent and the DiGioia article is unwarranted and should be withdrawn.

The examiner has also rejected claims 13 and 40 under 35 U.S.C. §103(a) over either the combination of the Carson patent and the Salehi patent or the Carson patent and the DiGioia article and further in view of U. S. Patent No. 6,162,257, hereafter "the Gustilo patent." This rejection is traversed.

The Gustilo patent does not remove any of the deficiencies of any of the prior three discussed documents. The Gustilo patent is only concerned with prosthesis for deficient acetabular cups. There is no disclosure in the Gustilo patent that would suggest the method of claims 13 and 40 either alone or in combination with any combination of the prior three documents. Therefore, this rejection is no longer warranted and should be withdrawn.

The examiner has also provisionally rejected all claims under consideration based on obviousness type double patenting over two pending applications, 10/732,553 and 11/148,520. The examiner is requested to hold this rejection in abeyance because there are no allowed claims at this point in any of the three applications. Until one of these applications has been allowed and issued, this rejection is premature. Upon an indication of allowable subject matter, applicants will prepare and file appropriate documents to remove these rejections. Until there are allowed claims, it is not possible to determine if the applications overlap in a non-permitted fashion.

It is contended that this application has been placed in condition for allowance. Such action at an early date is requested.

Respectfully submitted,

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